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**CONTAINER**

[Behältnis]

[Inventor Not Mentioned by Request]

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### **Specification**

This invention relates to a container, in particular, a filing deposit bay, a coin box, an ashtray, etc. for vehicles whose body is made of a traditional thermoplast.

The known glove compartments, coin boxes, etc., used in motor vehicles, have a felt-like flocculation on their surface. This felt-like flocculation is provided wherever the surface of the particular deposit bay is visible, but at least wherever objects can be deposited. This flocculation is used to place the surface in a state that is pleasant for the user and in order to prevent any possible rattling of the objects on the bare thermoplast.

This flocculation is applied in a separate work step after the production of the deposit bay, the coin box, etc., on the particular surface and that generates rather stiff production costs.

After a deposit shelf, coin box or the like that is flocculated in this fashion has been in use for some time, so-called blank spots develop at the frequently used points where the flocculation is worn out. Such blank spots are undesirable

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<sup>1</sup> Numbers in the margin indicate pagination in the foreign text.

because they give the deposit bay, the coin box, etc., an old and unattractive appearance.

The typical DE 32 43 801 A1 describes a deposit bay with a lid, in particular, to hold bandaging material that is arranged in a recess of a lining in motor vehicles, in particular, in the shelf between the rear seats and the rear window of motor vehicles, whereby the lid of same at least lies essentially in the plane of the lining and consists of a part of the lining that is cut in U shape. The lining consists of a carrier part made of hard cardboard, which is applied upon a velour-like textile coating.

DE 35 24 222 A1 describes an arrangement of a camera in a vehicle with a container receiving the camera, which consists of a housing and an insertion shelf, and that is positioned so that it can be pulled out or folded out as an integrated structural part of an opening provided in a vehicle accessory, such as, for example, a dashboard, a console, an armrest, a door lining or the like. The arrangement has a lining that is arranged in the container and that supports the camera and that consists of soft elastic material, for example, a plastic foam.

On that basis, the object of the invention is to provide a container that can be made at reasonable cost, which, even after protracted use, will not display any optical manifestations of

wear and tear and that will guarantee the usual good noise abatement.

This problem is solved in the following manner according to the invention: A container of the kind mentioned initially is so further developed that at least the part of the container that comes into contact with the objects to be received in the container will have a coating made of a sprayable, rubber-elastic material, whereby the container is made by way of the two-component spraying method.

Such containers preferably are used to keep objects in vehicles; therefore, the vehicle vibration can cause the undesirable rattling of the objects in the container. The invention-based coating with a sprayable rubber-elastic material will reduce this noise generation at least as well as when one uses a traditional flocculation; of course, the production costs of the invention-based coating are definitely less.

Making the container by way of the two-component spray method offers the advantage that the container comes from a single tool and is made on a single injection molding machine and that, after each injection cycle, one gets completely finished containers in the injection molding machine. As a result, especially in case of large unit numbers, the costs can be noticeably reduced when compared to the known models.

If the invention-based container is made by using one of the abovementioned materials with the help of the two-component injection-molding method, then one furthermore obtains the advantage that the coating will be adhering firmly and tightly upon the body so that any further fastening of the coating upon the body will not be necessary. That further reduces the production costs.

The carrying parts of the container, that is to say, the side walls, the bottom and possibly the lid as well as other structural parts required for the function of the container, are made of a traditional thermoplastic, for example, polyethylene, polypropylene, polyphenylene oxide, polyoxymethylene, polyamide, polycarbonate, acrylonitrile-butadiene-styrene copolymer or a combination thereof. Upon this body, a coating is then applied consisting of a sprayable rubber-elastic material on the base, for example, of a thermoplastic elastomer (TPE), a thermoplastic polyurethane elastomer (TPU), an elastic thermoplast, a copolyester or copolyether elastomer, a sprayable thermoplastic rubber or the like. Such materials are commercially available.

In a special embodiment, the thermoplastic elastomer is made on the base especially of a styrene-butylene-styrene (SBS), of a styrene-ethylene-butadiene-styrene (SEBS) or a polypropylene-EPDM. Each of these materials can be used at a reasonable cost and offers good sound insulation properties.

A thermoplastic rubber, for example, can consist of a synthetic polyolefinic material that is subjected to a vulcanization process, whereby it is assumed that cross-linked rubber particles of microscopic size are generated, which are distributed in a continual matrix of thermoplastic material.

In a preferred embodiment of the invention-based container, the catch cams that fix the deposit bay in the mounting provided for this purpose are also made of sprayable rubber-elastic material.

The containers provided in vehicles, for example, deposit bays, glove compartments, coin boxes, etc., are usually pushed into the specially provided mounting in the dashboard, in the center console, in the vehicle door, etc., whereby the yielding catch cams, placed on the outside surface of the container, are pressed inward and resume their original shape only after the container is in its proper position. Making these catch cams also of sprayable rubber-elastic material offers the advantage that they can be made simultaneously with the coating and the body in a single injection molding cycle. /2

By the same token, projections can be provided on the container, which are also made of the sprayable rubber-elastic material. Specific projections can already be provided during design and construction of containers, for example, at the place where a spring-loaded lever of the locking and attenuation

mechanics will impact against the container in order to attenuate the undesirable noise generated in this fashion.

The invention-based container can be injection molded by way of the two-component method; therefore, in a simple manner already during the design of the container, one can make provision for catch noses and/or projections and/or other structural measures without increasing the production costs.

Consequently, the invention-based container can be made at much lower cost than the known embodiment, especially when additional advantageous structural measures are implemented and, furthermore, at the same time, one can definitely reduce the noise.

Other advantages will result from the description and the attached drawing. The mentioned embodiments are not to be construed as a complete list; instead, they are more or less to be taken in the nature of examples.

The invention is shown in the drawing and will be explained in greater detail with the help of exemplary embodiments.

Fig. 1 is a profile side view of an invention-based container;

Fig. 2 is profile side view of an invention-based coin box with the coin compartment open;

Fig. 3 shows a front view of the coin box according to Fig. 2 in the form of a cutaway drawing.

The individual figures in the drawing display the invention-based object partly in a heavily schematic fashion and are not to be taken as being drawn to scale. The objects in the individual figures are partly illustrated way out of proportion so that their structure can better be displayed.

Fig. 1 shows an embodiment of an invention-based deposit bay 10 with a body 12 consisting of a traditional thermoplast. This deposit bay is opened toward the front and, both on its internal sides 14 and on one front side 16 of a circulating rim 18, it has a coating 20 consisting of a thermoplastic elastomer (TPE). In an embodiment, not shown, this coating 20 is made of a thermoplastic polyurethane elastomer (TPU).

On the outer sides 22 of body 12, there are yielding catch cams 24 that fix the deposit bay 10 in its corresponding mounting. These catch cams are made of the same thermoplastic elastomer or the same thermoplastic polyurethane as coating 20.

The entire deposit bay is made by way of the two-component injection molding method, whereby both the body 12 and the coating 20 and the catch cams 24 are made with one tool in one injection molding cycle.

On the basis of this production method, coating 20 will adhere firmly and tightly upon body 12 and cannot readily be removed from said body.

Figs. 2 and 3 show another embodiment of an invention-based container, that is to say, a coin box 30. This coin box 30 consists of a coin bay 32 and a housing 34. Coin bay 32 is positioned rotatably in housing 34 and is locked or released via a sliding control, not shown, and is prevented from jumping open in an uncontrolled manner by the oil insulation, not shown. Both the inside of coin bay 32 and the inside of housing 34 are provided with a coating 36 or 38 that is made of a thermoplastic elastomer (TPE) or a thermoplastic polyurethane (TPU). This coating 36 lines every coin slot 40 and thus ensures effective noise abatement while the vehicle is in motion.

Catch cams 42, located in the housing, here again, as in the example, can be made of the same material as coating 38.

Coin bay 32 as well as housing 34 is also made by way of the two-component injection molding method, whereby catch cams 42 can be molded upon directly during the injection molding step.

In an embodiment of coin box 30, not shown, there is provided on coin bay 32 and/or on housing 34 a projection, possibly provided on the outside of the coin box, consisting of the thermoplastic elastomer or the thermoplastic polyurethane, which serves as a stop for a lever of the unlocking and locking mechanism so that one can prevent the undesirable clicking of the coin box during opening or closing. By designing the tool,

one can make sure that the sprayable rubber-elastic material that forms the inside lining during the injection molding step will also flow to the outside and, in the process, will form the mentioned projection so that there will be no additional costs due to the increased number of parts.

In another embodiment of coin box 30, not shown, only the coin bay 32 is provided with a coating 36 and housing 34 is made from a thermoplastic in the known manner.

The object of the invention is a container (10), in particular, a deposit bay, a coin box, an ashtray, etc., for vehicles whose body is made from a traditional thermoplastic. To make sure that the container (10) can be made at a reasonable cost, that there will be no optical wear-and-tear phenomena even after protracted use, and that one can achieve the accustomed good noise abatement, at least the object to be placed in container (10) that comes into contact with the area of container (10) has a coating (20) of a sprayable rubber-elastic material that can also be coated on the outside by a suitable tool design.

#### Claims

1. Container, in particular, a deposit bay, a coin box, an ashtray, etc., for vehicles whose body (12) is made of a traditional thermoplastic, **characterized in** that at least the area of container (10, 30) that comes into contact with the objects

to be received in container (10, 30) has a coating (20, 36, 38) of a sprayable rubber-elastic material, whereby container (10, 32, 34) is made by way of the two-component injection molding method.

2. Container according to Claim 1, characterized in /3 that the sprayable rubber-elastic material is made on the base of a thermoplastic elastomer (TPE), a thermoplastic polyurethane elastomer (TPU), an elastic thermoplast, a copolyester or copolyether elastomer, a sprayable thermoplastic rubber or the like.

3. Container according to Claim 2, characterized in that the thermoplastic elastomer is especially made on a base of styrene-butylene-styrene (SBS), styrene-ethylene-butylene-styrene (SEBS) or propylene-EPDM.

4. Container according to at least one of Claims 1 to 3, characterized in that the traditional thermoplast displays polyethylene, polypropylene, polyphenylene oxide, polyoxymethylene, polyamide, polycarbonate, an acrylonitrile-butadiene-styrene copolymer or combinations thereof.

5. Container according to at least one of Claims 1 to 4, characterized in that catch cams (24, 42) are provided on the container (10, 34) that are made of a sprayable rubber-elastic material.

6. Container according to at least one of Claims 1 to 5, characterized in that projections are provided on the outside of container (10, 32, 34), which are made together with the sprayable rubber-elastic material that forms the coating of the inside and that are connected with it.

7. Container according to at least one of Claims 5 or 6, characterized in that the coating (29, 36, 38), the catch cams (24, 42) and/or the projections are made in a single injection molding cycle.

8. Use of thermoplastic elastomers or thermoplastic polyurethanes in containers according to one of the above claims as protective coating and/or as noise abatement material.

1 page of drawings.



